

SCANNED DISPLAY WITH SWITCHED FEEDS AND DISTORTION CORRECTION

ABSTRACT OF THE INVENTION

A display apparatus includes a scanning assembly that scans about two or more axes, typically in a raster pattern. A plurality of light sources emit light from spaced apart locations toward the scanning assembly such that the scanning assembly simultaneously scans more than one of the beams. The light sources are positioned such that their beams each illuminate a discrete region of the image field that is substantially non-overlapping with respect to the other discrete regions. Each line of the image is formed from a set of segments where two or more of the segments define a line of an image. Because the lines are made from discrete segments, the problem of raster pinch is reduced. Where a single sweep of the scanning assembly scans a plurality of segments simultaneously, the achievable resolution of the display for a given scan angle and mirror size is increased relative to a mirror sweeping a single beam. In alternative embodiments, the scanning approach is used for imaging. Also, segments of different wavelengths can be overlapped to produce a color display.